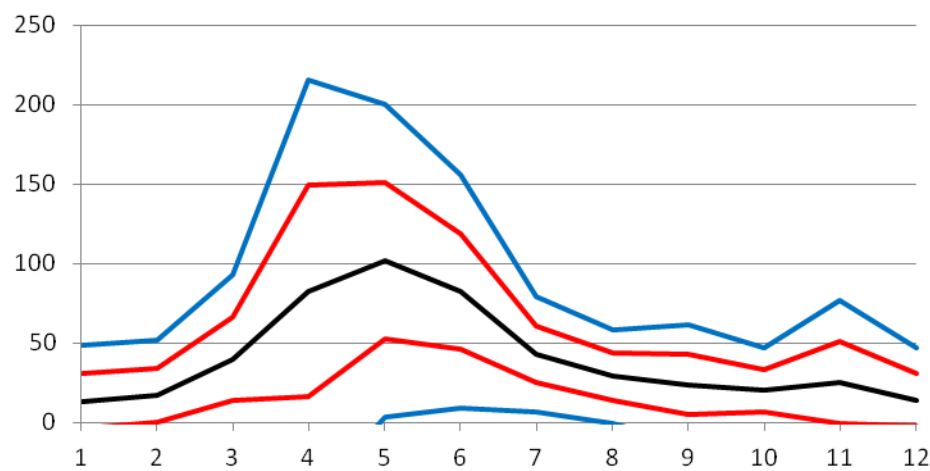
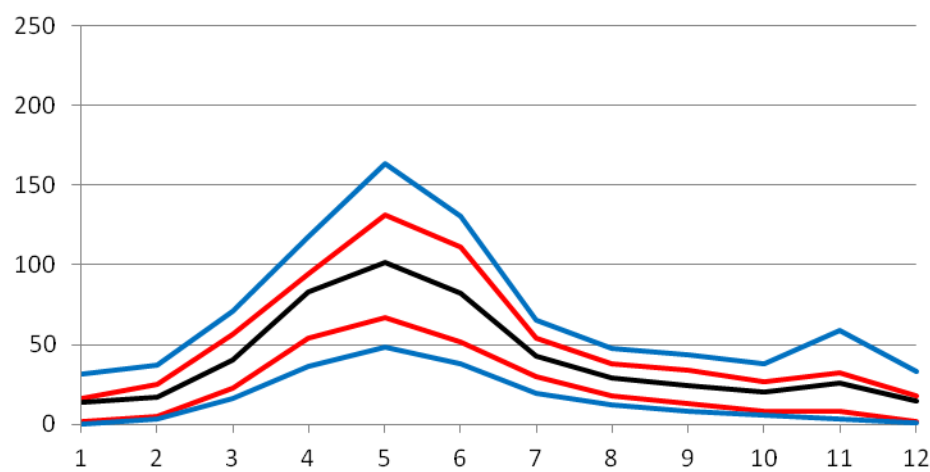


	1	2	3	4	5	6	7	8	9	10	11	12
Mean	13.8	17.4	39.0	82.2	101.0	82.5	42.4	28.3	23.6	20.8	26.0	14.1
Median	10	15	32	74	90	82	42	28	19	18	16	9
Std Dev	17.7	16.8	26.5	65.3	49.1	37.0	18.0	15.1	18.6	13.9	25.8	16.0
IQR	15	20	34	40	65	61	25	22	19	19	25	16
MAD	8	10	14	20	35	30	12	11	8	10	11	7
0.1	0	3	13	37	47	37	19	11	7	6	4	1
0.25	2	5	21	54	65	51	29	16	13	9	8	2
0.75	17	25	55	94	130	112	54	38	32	28	33	18
0.9	35	37	71	117	162	131	65	47	43	39	63	32

Parametric



Non-Parametric



I showed mean and 1 and 2 sds from mean for parametric, median, 10th, 25th, 75th, 90th %iles for non.

Points of interest:

1) Means and medians are just about the same.

2a) The standard deviation in winter is > the mean (or approximately equal). That implies that the normal distribution is not a particularly good fit for monthly winter tornadoes.

2b) For a normal distribution, $IQR \sim 1.34 * (StdDev)$. Except for June, the predicted value for IQR is higher than the observed. It's especially bad in April where the predicted value is 89 and the observed is 40. This also shows up in the large +2SD value in April. 2011 plays a significant role in this. SD without 2011 is 37 compared to 66.

3) The difference between April, May, and June is interesting. Means and medians are similar, but consider the difference in the 75th and 90th %iles between April and June. Big Junes tend to be bigger than big Aprils, although small months are similar. The impact of April 2011 on the parametric stats really shows the lack of resistance.

4) Look at the annual cycle of the lower three quantiles (p0.10, p0.25, and median) compared to p0.75 and p0.95, particularly for November. The lower quantiles have no secondary maxima, p0.75's Nov is greater than Oct and p0.90 Nov is much greater than Oct. Apparently, when there are tornadoes in November, there are a lot. It happens in several years, but not very often. As a result, the median for Nov fits nicely between Oct and Dec, but the mean Nov is greater than Oct. We don't see similar behavior (at least when calendar months are considered) in the late winter/early spring.

5) If we were looking at larger sample sizes, we could consider normality by looking at the fraction of the sample inside the 2StdDev confidence bounds. For a normal distribution, 95% of the distribution is within 2 StdDev of the mean. If we had p0.025 and p0.975, we could look at that, but with a sample size of 59, we'd essentially be looking at the second largest and second smallest values in the distribution. That's sufficiently out in the tails that we shouldn't have much confidence in the robustness of those values.